

U.S. Patent Application Serial No. 09/869,325
Reply to Office Action of **October 24, 2003**

REMARKS

Claims 1 and 4 to 8 are in the application wherein claim 1 is rejected; claims 4 to 6 stand withdrawn from consideration as being for a non-elected invention; and claims 7 and 8 are allowed. The comments made by the Examiner in the Office Action have been considered and, pursuant thereto, claim 1 is hereby canceled and claims 9 to 19 are newly added. In view of the cancellation of claim 1 thereof, it is submitted that the rejection of this claim under 35 U.S.C. §103(a) as being unpatentable over Tezuka in view of Osborne, as well as the further rejection under 35 U.S.C. §103(a) of both claim 1 and claim 2 (claim 2 having been canceled by the Preliminary Amendment dated June 23, 2003 that formed part of the instant RCE application) are moot.

As regards claims 9 to 19, the new claims in the application, it is submitted that these claims are patentable, together with previously allowed claims 7 and 8, for the following reasons. First, new claim 9 depends from claim 7, an allowed claim, and, consequently, is itself allowable for the same reasons as the patentability of claim 7 has been determined. New claims 10 to 19 define the invention in varying degrees of specificity and are patentable because none of the cited references which, in addition to the Tezuka and Osborne references, include those of Potter, et al, taken together with any of the Kasman, Dutertre, et al., Kishimoto, WO 91/07504, JP 5-168459 or GB 2261111 that fail to show the invention recited in the claims regardless of whether these references are considered alone or in combination. For example, all of the new claims in the application either expressly or by clear inference define a sample temperature device which includes as separate members a heating block 3 having a sample container holder 6, a temperature controllable heater 7 and a sensor 9; a cooling block 4 with a cooling mechanism 11; and a connecting plate 15 made of a material having

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a thermal conductivity lower than those of the respective heating and cooling blocks for combining the heating block 3 together with the cooling block 4. Claim 11 is an independent claim which defines the device with greater specificity by specifying that the regulator device include a plurality of heating blocks 3, each containing a holding hole 6 for holding a sample container 2 on the upper surface thereof; and a plurality of connecting plates 15 of lower thermally conductive material wherein a face of each heating block 3 is connected with a face of the cooling block 4 through the respective connecting plates 15 while the heater blocks are each equipped with a heater 7 on a face opposite to the face where the cooling block is connected and with a temperature sensor 9; and each heater 7 and sensor 9 are connected to a temperature controller whereby control of the heaters is based on the temperature detected by the respective sensors.

Claim 12 depends from claim 11 and defines the cooling block 4 as being in the form of a square column and wherein each connecting plate 15 connects a side face of each heating block 3 to a longitudinal side face of the cooling block 4, and the sensor 9 is in the form of a cartridge sensor which is inserted into a socket 8 in each heating block. Claim 13 corresponds essentially to claim 11 but specifies that the cooling block 4 is made of a material having a thermal conductivity lower than that of the heating block 3. Claim 14 depends from claim 13 and defines the cooling block 4 as being in the form of a rectangular column, and wherein a side face of each heating block 3 is directly connected to the longitudinal side face of the cooling block and the sensor 9 is a cartridge sensor plugged into a socket 8.

Claims 15 to 19 each constitute multiple dependent claims depending from foregoing claims in which claim 15 recites the cooling block 4 as being provided with refluxing blocks 5 associated

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each with one of the respective heating blocks 3, each refluxing block 5 containing a prop 12 removably set to stand on the cooling block 4 and having an arm 13 that contacts the upper part of a sample container 2. Claim 16 depends from claim 15 and further defines the cooling mechanism 4 as comprising a circulating passage containing a refrigerant channel 16 through the cooling block; an antifreeze cooling unit 17 and an antifreeze circulating pipe 19, 20 containing pump 18 for circulating antifreeze between the cooling unit 17 and the refrigerant channel 16.

Claim 17 depends from any of claims 11 to 14 and is directed to the embodiment of Fig. 4 specifying that the circulating passage of the cooling mechanism contains a metal pipe 32 having a closed end fitted in a through-hole 31 in the cooling block 4, a refrigerant injecting pipe 33 inserted in the metal pipe 32, and a vapor refrigerant cooling unit 34 connected to the refrigerant injection pipe 33 by pipes 35, 36 for circulating coolant between the cooling unit 34 and the cooling block 4.

Claim 18 also depends from any of claims 11 to 14, and is directed to the embodiment of Fig. 5 and defines the cooling mechanism as comprising a low temperature vapor refrigerant generator 42 and a pipe 44 connecting a heating section 43 of such low temperature vapor refrigerant generator to an inlet of the refrigerant channel 41 in the cooling block 4 and an exhaust pipe 45 from the outlet of the refrigerant channel 41 of the cooling block 4.

Finally, claim 19 depends from any of claims 11 to 14 and is directed to the embodiment of Fig. 6 and specifies the cooling mechanism as being a Peltier device 51 which is a solid body connected to a side of the cooling block 4 opposite that which attaches the heating blocks 3 and connects to the cooling block with a cooling side that performs cooling by energization.

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Thus, from the foregoing it is clear that the new claims now in the application are particularly structurally and functionally specific to the sample temperature regulator organization which is described and illustrated in the application. Accordingly, because none of the devices described in the several references of record in the application are structurally similar to the invention, as recited in the claims now in the application, it is submitted that new claims 10 to 19, like claims 7 and 8, patentably distinguish the invention over the references and should be allowed. The Examiner is therefore respectfully requested to favorably consider this Amendment and to allow the application.

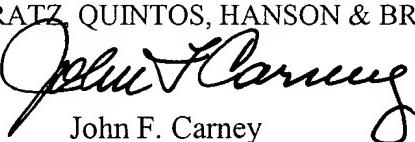
If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicant's undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicant respectfully petitions for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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